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POLICIES AND STRATEGIES FOR INSTITUTIONS OF HIGHER LEARNING IN AFRICA IN VIEW OF AFRICA'S LONG-TERM DEVELOPMENT CHALLENGES AND STRATEGIES

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I. Introduction

1. By the first half of the 1980's the major development challenges to Africa was to stay alive. The agriculture sector was severely hit by drought, desertification and low productivity leading to a major food shortfall and a great dependence on food aid. The industrial sector reached an undesirable state of decay due primarily to the slow pace of investment flow; a rapid depreciation on existing capital goods and infrastructure; and the lack of adequate indigenous entrepreneurs and skilled and managerial manpower. The social sector reached its own crisis point. Imbalances had developed between the number and types of available jobs and job seekers; between population growth and resource accumulation and distribution, and between social norms, political desires and production patterns. In totality, Africa's development was at a stalemate by mid 1980 despite the tremendous efforts made by the Governments and peoples of Africa in the fields of education, health, agriculture and industry.

2. For the second half of the 1980's, the Governments of Africa have formulated detailed priority measures and solicited world assistance in lending support to their commitment to lay a sound foundation for African development up to 1990 as contained in APPER, Africa's submission to the Special Session of the United NationsGeneral Assembly on Africa's Economic and Social Crisis, and the United Nations Programme of Action for African Economic Recovery and Development 1986-1990. The basic challenges posed by this desire for recovery and a sound foundation are embeded in the need for achieving a self-reliant and self-sustained development beyond the year 1990.

3. Structural imbalances; wide-spread low level productivity of the African economies; heavy dependence of domestic production on imports; failure to diversify into new types of exports; and the absence of domestic linkages have all been identified as existing development problems of Africa 1/. Consequently, if Africa is to begin the path of development beyond 1990, these structural problems will have to be resolved. The challenge is therefore clear: pursuing

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1/ "Africa's Submission to the Special Session of the United Nations General Assembly on Africa's Economic and Social Crisis"; OAU/ECM/2XV/Rev.2, E/ECA/ECA.1/1/Rev.2; 1986.

policies and institutional reforms that would bring about major structural changes and establish more dynamic, self-reliant and self-sustaining economies in Africa. The implication of the challenge, as summarized by ECA, is Africa's ability at that time to (i) use Africa's vast resources to meet the needs and aspirations of the people; (ii) change from total reliance on export of a few raw material to a growth path based on a combination of natural resources, enterprenurial, managerial and technical resources, the restructuration and expansion of the domestic market; (iii) mobilize all of Africa's human and material resources for industrial development...; and (iv) promote African economic integration and co-operation[1/].

4. The above challenges must be taken up jointly by all facets of the African society including all institutions operating within the Continent so as to optimize, sustain and enhance the desired development goal. An essential part of such participation involves sectoral policies formulation and the development and pursuit of strategies to implement the policies! As we all know, African institutions of higher learning are of no exception to this general rule of thumb. If anything, they are among the few most crucial type of institutions required to provide the necessary backbone to the process. In other words their direct and active involvement is inevitable to the achievement of a self-reliant and self-sustained development. Therefore what they have done in the past, what they do now and what they would do in the future do have direct bearing on the viability and nature of socio-economic conditions in Africa.

5. Consequently, African universities and other institutions of higher learning will have to examine the effectiveness of past and present policies and strategies with the view of formulating future options that will make their role in African future development more effective. Evidence from the various meetings of the AAU, African Ministers of Education, University Vice-Chancellors and Rectors etc. show that much of this examination has taken place over the years though with little follow-up action which could have determined the benefits of the exercise. To continue the effort, this paper focuses attention on some fundamental elements which should be taken into account in any discussion during such an examination making particular reference to the formulation of higher education policies and strategies in the light of Africa's development challenges and strategies between the years 1990 and 2008.

6. The paper takes a quick glance at prevailing socio-economic conditions in Africa as a basis for appreciating the "willed" future, followed by a review of

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1/ "ECA and Africa's Development 1983-2008: A Prelimary Perspective Study"; UNECA, Addis; April 1983; p.55.

the Continent's long-term development challenges and needs drawing their respective implications for sharper higher education policies and strategies. It concludes with a few policy and strategy suggestions and a plan of action with the aim to stimulate discussion and generate various options so as to ensure that African institutions of higher learning play their dutiful role in the development process at that time. The message through the paper together with the required action is clear: Africa would be faced with a number of challenges in the years ahead derived from the decisions and actions taken during the next five years. These challenges must be met and African institutions of higher learning could play a catalist role. Consequently there is the need to revist present policies and strategies for higher education and the decision ought to be taken now.

7. The basic assumption which underlies the issues and suggestions raised in this paper is that the necessary foundation for durable structural changes and economic take-off would have been laid by 1990 following a successful performance of programmes such as APPER, UN-PAAERD, the United Nations Transport and Communication Decade in Africa; and the United Nations Industrial Development Decade for Africa. Needless to say that the validity of this assumption rests with what each and every concerned institution government and would do between now and 1990 in relation to resource mobilization, resource development and resource utilization, and the type and scope of development policies formulated to guide future events.

II. The Point of Departure and Cause for Reform

8. The African population nearly doubled between 1960 and 1980 from an estimated 257 million people to about 440 million. High and fairly constant fertility levels coupled with a declining infant mortality rate have been cited as major contributing factors. The rural areas, where virtually social and economic activities are in their rudimentary stages, provide living space for more than 70 per cent of the African population despite the fact that the region's rural-to-urban migration rate is among the world's highest. Associated problems which are of daily concerns to African Governments include closing the imbalances between population growth and resource distribution, and removing resulting socio-infrastructural bottlenecks such as inadequate housing, education and employment opportunities. Within the core of these two problem areas are a few sad realities of development in Africa. Not only is there a low per capita income index for most of the countries, but whatever little income there is, it is not distributed fairly among people and geographic regions. Another disturbing yet growing reality is the incidence of urban unemployment rural underemployment and the spread of mass poverty. Additionally, despite substantial investment outlays and enthusiasm in the development of education in Africa, the orientation of education at all levels have yet to be responsive to Africa's needs and aspirations.

9. The discrepencies between the growth trends of the African population and the production of food is yet another and of those sad realities. What is even more frightening is that while Africa's overall food production trend stagnated around 1.5 per cent over a decade , growth in food demand kept pace with, and in some cases, overshot population expansion. This undesirable performance is attributed not only to the exogenous problems of drought and dessertification but also to what ECA calls "internal factors" such as "low productivity rates especially per unit of land, inadequate investment outlays in agriculture, poor incentives to farmers, fragmentation and subdivision of holdings, inadequate land tenure systems, limited agricultural research, rural-urban migration and institutional constraints"1/. The overall result is a growing food deficit in a Continent which has a comparative advantage in agriculture relative to most parts of the world. To stay afloat, the region resorted to increasing food imports and reliance on food aid. A strategy which does not only threaten to negate the goal of food self-sufficiency, but one which gives rise to a high opportunity cost to society for the use of scarce foreign exchange earnings away from development projects so as to support the imported food basket.

10. As is, there is nothing much one can tell home in regards to the industrial sector and its process in Africa. First African industrial planning and industrial development have been piecemeal, immature and theoritical. Secondly, the sector continues to remain an enclave dominated mostly by trans-nationals and hence an insignificant contributor to the region's productive income. Furthermore, apart from the production of a narrow range of intermediate goods, the industrial sector is characterized by eight industries producing consumer goods, mainly beverages and tobacco; and by a crude and relatively week degree of processing and semi-processing of mineral and agricultural raw materials for export. On the other hand, the production of capital and other essential consumer goods is only marginal given the inflexible structure of production which is based on small-size and under-utilized plants. The problem is not only limited to the production of capital and consumer goods. Industrialization in Africa is also biased against the production of intermediate goods such as fertilizers, cement, iron and steel, aluminium, chemicals, etc.

11. In the face of a growing demand for consumer intermediate and capital goods, these weaknesses in the industrial sector have led to increase import bills which do not only affect the foreign exchange reserve position, but also Africa's prodiction and marketing cost structures, and Africa's ability to exploit its natural resources, develop domestic technology and take due advantage of its surplus labour. A major constraining factor is that the production process is characterized by weak forward and backward linkages within and between the industrial structure and the natural resource base.

1/ Ibid.; p.9.

Besides, for those production which are foreign market-oriented, the process suffered from the recent world economic recession and is likely to be subjected to stronger competition from outside in terms of quality and prices and from the high cost of imported inputs for producing manufactured goods.

12. What has emerged from various analysis of this sluggish performance of African economies over the last ten years is that the following are among the major contributing factors: (i) the inadequacy and poor condition of Africa's transport and communication infrastructure; (ii) Africa's incapability to exploit, process and utilize in an integrated manner her vast reserves of natural resources; and (iii) a diminishing trend in capital growth and a growing financial leakage given rise to huge payment deficits and the accumulation of non-productive and self-inflicting debt. In our view these factors can be sumed up in one sentence: the inappropriateness of Africa's policies, strategies, programmes and attitude toward the development and utilization of its human resources particularly those needed for high and middle-level jobs. The implication of this observation raises a number of questions pertaining to the relevancy, structure, policies, strategies and programmes of higher education in Africa:

(i) Are the African institutions of higher learning aware of this problem and, if so, what steps were taken or are now being taken to assist in finding a solution;

(ii) Are there internal or external factors which have constrained the institutions in their desire to play a more positive role in resolving the high and middle-level manpower bottleneck, and how best could such constraints be removed;

(iii) Are present linkages which exist between various institutions of higher learning within a particular country, or between those within the continent, or between national institutions and governments, of the kind that would foster co-operation in the undertaken of action-oriented research, the exchange of knowledge and innovative ideas, and the development of higher education in Africa.

13. Answers to these and other resulting questions need not be sought only at this Conference. If African Institutions of higher learning are to be responsibly involved in the challenges of Africa's development beyond 1990, then answers should be sought through various formal and informal meetings and activities with the view to building the necessary foundation during the next ten years to meet the challenge. Consequently, as a point of departure, a blue print for the development of higher education in Africa will have to be drawn up within a framework of clearly established long-term policies and strategies for making higher education development-oriented.

III. Africa's Development Challenge Beyond the year 1990: The Point of Reference

14. Given that the assumption stated above holds a set of measures to provide new impetus to agricultural development in Africa, and measures to combat potential food shortages and to create food security, food protection and food distribution arrangements would have been instituted in the region by 1990. Additionally, agro-related industry would have been rehabilitated, upgraded and expanded with the necessary transportation, communication and marketing arrangements made for improving access to production areas, and distribution channels for domestic trade and intra-African trade. Radical policies for human resources planning, development and utilization would have evolved and integrated within the framework of national development policies and plans along side with major policy reforms with respect to managing the economy, structural adjustment, population dynamics and the participation of men and women in development. In short, by the end of 1990, a foundation for durable structural changes would have been laid and a set of policies to improve productivity levels and enhance long-term development prospects established.

15. All things being equal Africa's development challenges beyond 1990 would therefore be those transcending beyond recovery and foundation building into transforming and sustaining the African economic and social structures. Accordingly, all actions taken must be taken in the cause of creating the types of economies in which economic growth and development would be more dependent on domestic resource use and internal demand stimuli. As put by African Governments themselves, this would only be achieved "by adopting an integrated approach to development, increasing the substitution of factor inputs from within the system for those derived from outside, altering the nature and types of goods and services needed to meet the basic needs of the majority of the population, and by strengthening subregional and regional co-operation and encouraging the co-ordinated exploitation and utilization of Africa's vast resources for the benefit of the African people".[1/]

16. A deeper analysis of the above requirements suggests that the major challenges by the year 1990 and beyond would be broadly centred around the issues of effective organization and development management with the role of African institutions of higher learning becoming more and more demanding. The nature of and elements contained in each of these two broad areas and their corresponding implications for high-level manpower development and diversification need to be understood when setting higher education policies

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1/ "Africa's Submission to the Special Session of the United Nations General Assembly on Africa Economic and Social Crisis"; OAU/ECM/2XV/Rev.2,E/ECA/ECM.1/1/Rev.2; Addis Ababa, 1986; p.9.

and strategies as well as during the preparation of a blue print for higher education development as suggested in the last section. Attempt is therefore made in this section to highlight some of those elements together with their implications for higher education in Africa.[1/]

(i) Effective Organization

17. It has often been said that the lack of "effective organization" could lead to inefficient utilization of resources and the dissipation of efforts with the aggregate impact causing failure and frustration. To avoid this dispair, the challenge to ensure a viable, functional and interwoven organization will have to be met. Essential components of such an organization, which need to be properly designed and administered, include important areas like social institutions and integration; political infrastructure and participation; administrative rules and procedures; and judicious legislations and practices. Existing framework of these key development variables will have to take on forms that would stimulate the creativity and the initiatives that make man a development-oriented resource.

18. Elements of this challenge would give rise to three development needs during the 1990's. First, the need to evolve development-oriented leadership and development-oriented administration process and consequently a development conscious society would be ever pressing. This means that all aspects of policy measures and institutional activities will have to be development-centred so that every activity, every thought, every step of the people and institutions contributes to the consolidation of Africa's development. Secondly, there would be the need for new development concepts, approaches and organizational behaviour that would effect this new development re-orientation. Finally, the challenge would stem from the relationship between politicians, public servants, rural dwellers, administrators and academicians. This relationship should take on greater co-operation and mutual concern with each other in their joint responsibilities in the development task.

19. African institutions of higher learning have a vital role to play in this regard. The weight of the challenge would rest with those institutional machineries developed to support agriculture, industry, natural resources, transport; communication, trade, finance, law and order and social activities. For such machineries to be effective, they must be staffed with men and women

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1/ Detailed treatment of the issues raised and statistics quoted can be found in "ECA and Africa's Development 1983-2008: A Preliminary Perspective Study; UNECA, April 1983. The implications are inferences from the "willed" future of Africa by 2008 under a normative development scenario in the same document.

having the necessary "know-how" and "know-why" that would ensure the appropriate relationship between development objectives and development activities. The type of capabilities required would include those to prepare and design projects, to map out efficient use of investment funds, to appraise and select project proposals, and to make necessary analysis of issues for the formulation and management of development policies. Accordingly, the Universities would be required to play a dual role both of which should be guided by the policies established. First, they would be responsible to keep on supplying and updating the productive resources of the men and women required to shape, guide and operate the organization. Secondly, the work programmes of these institutions will have to include a systematic review of the organization and the administrative set-up in search of appropriate models, concepts and alternative organizational behaviour for better results.

(ii) Development Management

20. The second major development challenge after the year 1990 up to 2008 would be the management of growth and managing the distribution of that growth. In other words, development management would become the order of the day, and hence there would be a greater need for the ample supply of development managers. Within a broader context, the challenge would require Africa's ability to manage effectively the available resources. The extent of such capabilities lies in the nature of policies pursued which hopefully would have evolved during the recovery period in relation to the composition and pattern of consumption; the promotion and allocation of investment; import and export regulations; income distribution and redistribution; and the institutional arrangements to formulate, execute and monitor those policies.

21. An obvious point to stress at this stage is that the effectiveness of the required capabilities would depend largely upon the knowledge, skills and attitudes of those who formulate and appraise the policies, those who approve and enact the policies, and those who execute the elements of the policies. In this connection, a team work approach seems to provide a useful strategy. However ensuring this type of team work could prove difficult if during the learning stage of those main actors, the inter-disciplinary approach to development was not taught nor practiced particularly by the institutions of higher learning.

22. The development management challenge could be formidable in the years ahead. The social sector and the productive sector will have to be carefully watched. A brief review of the elements, embodied within the challenge vis-a-vis these two sectors beyond the year 1990 as predicted by the ECA, would illustrate its magnitude and its consequences on the policies and

practices of African institutions of higher learning[1/].

(a) The Social Sector

23. Population: It is projected that by the year 2008, there would be a more balanced expansion in the population, and measure, to ensure a better utilization of the population as a resource dialectically directed towards its ownself and its own development and welfare would have been in place. Nevertheless, the population would still be growing at a relatively high rate of 2.9 per cent reaching about 997 million. The population structure will still be characterized by a large young population with an estimated 42 per cent of the entire population being between the ages 0-14 and about 55 per cent in the 15-64 age group. More than 53 per cent of the African population would still be in rural areas with the urbanization rate reaching 44 per cent. In these circumstances, the need would be stronger to develop and operationalize rural-urban integrated development schemes to slow down the rural-urban drift and to institute meaningful income distribution programmes between 1990 and the year 2008. Additionally, education and employment strategies will have to be devised and put in place in ways that would not only accommodate, but would also intensify their adverse impact on the growth of population.

24. Employment: The agriculture sector will continue to be the biggest employing sector while in relative terms, the public sector labour absorptive capacity will become limited. In terms of sectoral distribution, the formal wage sector is projected to provide about 158 million job opportunities leaving nearly 15 per cent of the formal wage labour force openly unemployed. The nature of the challenge would therefore be the development of various programmes and projects, mainly through action-oriented research and development, to encourage the expansion of the economy's output in other sectors outside central government. A key to all this would be the availability of African entrepreneurs, increased technological development, and the intensification of research activities with emphasis on the agriculture sector.

25. Education: School enrolment ratios by the year 2008 are estimated as 83 per cent of all primary school children, 55 per cent of secondary level children and 16 per cent of higher education. This poses two challenges

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1/ The Macro-economic setting used in this brief review is that which is predicted for Africa beyond the year 2000 if, and only if, present policies, programmes, attitudes and strategies are reformed. For a detailed presentation of these see "ECA and Africa's Development: A Preliminary Perspective Study;" Addis Ababa, 1983.

during the 1990's. First, the hopefully restructured school system will have to be maintained and improved upon to accommodate the growing demand. Secondly, the links between the various levels of education must be solidified with the higher institutions of learning setting the norms and keeping them in place by way of recruitment and requirement policies, teacher training programmes, and education development research activities. Given the dimension of the development management challenge, Africa would need a new generation of school leavers who are trained, motivated and active workers instead of the "classical educated elite" of secondary graduates in rural areas and university graduates in urban areas. Specifically, the African student will have to be trained and re-oriented in such a way that he or she would render productive services for the generation of agricultural outputs, the transformation of small and medium-scale industries, and the indigenization of the economy thereby forming a stimulating force in the development-conscious society.

26. Health: With the African population rising so would be the demand for health services in the next twenty years. The problems of under-nutrition and malnutrition particularly protein and calorie defficiencies, inequitable distribution of health facilities and purified water in favour of urban areas and the tendency for health policies to de-emphasize preventive measures at the expense of curative measures will continue to dampen whatever improvements that would have been made in the health sector. Consequently, the challenges would demand not only the provision of more doctors and support staff and increased health facilities; but would also demand narrowing the health gap between urban and rural areas; the provision of clean water; and pursuing policy measures that would improve nutritional levels in food intake and prevent diseases like malaria, taypanosomiasis, bilharzia, etc. The strategy would, among other measures such as undertaking a nutrition education campaign and instituting an incentive programme to redistribute and allocate medical personnel in rural areas, call for training para-medical personnel and doctors with rural orientation and appreciation as well as intensifying medical and food research by African institutions of higher learning.

(b) The Productive Sector

27. Agriculture Self-sufficiency: Africa would be faced with two major challenges in developing and sustaining the agriculture sector between 1990 and the year 2008. A balance will have to be maintained between (i) the volume of food production and food consumption and (ii) food production and the type of diet contained in the food mix. A major strategy would therefore entail broadening the production base by increasing the arable land for cultivation, improving irrigation and drainage, soil conservation to reduce water and land degradation, increasing yields through the application of a balanced package containing fertilizers, improved seeds, plant protection and power inputs. Nutritional education to influence individual food consumption habits, food diversification, and the development of efficient methods of food processing and preparation should also be part of the strategy. This means that there would be a pressing need for organized and extensive environmental sanitation programmes and health services in both rural and urban Africa.

28. Complementing these strategies would be those policies that focused on the equitable and judicious distribution of agricultural investment and the enlargement of national and sub-regional food markets, and those that would ensure effective pricing and fiscal measures in favour of agriculture producers, the promotion of small-scale agro-processing industries in the rural sector, and easy assess of farmers to agricultural inputs extension services and credit facilities. Also needed would be measures to reduce pre and post-harvest losses which are usually inflicted by pests, diseases, weeds, natural decay and poor storage and marketing facilities. The strategy should also be concerned with creating and maintaining an efficient livestock production system. The ECA summed up the challenges which lie ahead in this sector in the following words-1/

> "Livestock production systems will have to undergo radical changes if the projected targets are to be fulfilled. The strategies in this sector would have to include (a) major structural changes in the composition of livestock; (b) integration of livestock and crop production activities; (c) progressive substitution of red meat for white; and (d) changes in technologies. The main inputs will have to increase rapidly for the high growth production targets to be met. The first major input is animal feed including both roughages and concentrates and the second is

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1/ "ECA and Africa's Development 1983-1008: A Preliminary Perspective Study," Addis Ababa, 1983, p.64.

veterinary services and medicines. For the ruminant species (cattle, buffalo, sheep and goat), the bulk of feed requirement will come from roughages in the form of grazing, crop byproducts and fodder grown specifically for feeding. Veterinary service should be concerned predominantly with preventive medicine, mainly with control of major diseases. Emphasis should be put on raising the average level of staff training and improving the organization and management of the animal health systems."

29. The role of higher education in bringing about a breakthrough to deal with this first challenge cannot be overemphasized. Amrik Singh substantiated this in his assessment of the impact of education on India's development. He concluded that "to a large extent the breakthrough (in wheat production) came about as a result of the establishment of agricultural universities in the beginning of the sixties,.....(and that) the research and extension work done in those universities led to dramatic improvements in certain sectors of agriculture".[1/] Other countries in Asia and Latin America have embarked upon similar strategies to develop their agricultural sector. African institutions of higher learning will have to be called upon to take up this challenge if Africa is to be self-sufficient in agriculture production. Specifically, agricultural research centres, faculties and institutes will have to intensify and re-orient their teaching, research and extension capabilities towards assisting national programmes and farmers to develop and utilize new improved agricultural technology. First and foremost, African universities will have to produce for these centres, faculties and institutes, academic staff and research scientists who must, besides their basic theoritical knowledge, know the farmers' traditional technology; be capable of growing good crops and/or breeding healthy livestocks under the farmers needs and conditions; and be interested in working with farmers who would be largely poor and illiterate. Secondly, they will have to produce field research workers and agriculture specialists, managers and economists who can undertake on-farm applied agronomic research, develop and/or improve high-yielding varieties, provide technical assistance and guidance to farmers, organize and communicate to farmers their know-how, the new methods and techniques, and the socio-economic gains to be derived from agriculture. Certainly, the development of the above agricultural manpower would require the re-orientation of present phylosophies, policies and strategies of African agriculture education. This new direction should allow the agriculture graduate not only to have a sound understanding of the traditional technical areas of study such as plant and animal physiology, husbandry, nutrition, genetics, crop protection, handling, storage, soil science, soil,, water and livestock management, climatology, crops and animal processing, etc.; but should also have a taste of some socio-economic

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1/ Singh, A.; "Indian Education Since 1947: An assessment", printed in Prospects: Quarterly Review of Education, Vol. V, No. 3, UNESCO, 1975.

subjects such as farm economics and management, agricultural and food policy and marketing.

Industrial Take-off: A major challenge by 1990 is for Africa to bring about substantive savings on her foreign exchange reserves. It is hoped that by then the region would have had a foundation on which to begin a desirable path of industrial development. It is also hoped that the basic policy reform and institutional framework required to place and keep the economy on that path and increasing would have been instituted. Therefore coping with the challenge of reserves calls for factors such as innovation, increased entrepreneurial capabilities, and re-orientation of consumer tastes away from imported goods towards domestically produced goods and services. The challenge would boil down to the establishment of a capital goods sector; an industrial intermediate goods sector and a non-agricultural basic consumer goods sector.

30. Focus of the capital goods sector should be on agricultural machinery, especially tractors given that the region's annual requirement for tractors is estimated to reach about 310,000 by the year 2008. Focus should also be placed on the development of animal traction equipment and passengers and commercial cars. Production of fertilizer, iron, steel and cement would need to be at appreciable levels to support the industrial growth. In the case of fertilizer, it is estimated that Africa would need to have at the minimum, 27 large-scale production units for nitrogenous, 20 for phosphate production and 5 potash fertilizers producing units, requiring about 67,000 managers and supervisors, 2000 health and personnel workers, 8000 engineers and chemists and 81,000 other skilled and unskilled workers. By the year 2008, Africa's total consumption level of iron and steel would reach 195 million tons. To obtain the desired projected self-sufficiency ratio of 31 per cent to be produced in Africa would require nearly 20,000 engineers and managers and 33,000 technicians.

31. Among the top priority of the basic consumer goods to be produced within the import substitution strategy are textiles and pharmaceuticals. With regards the former, the challenge would entail improving the quality of domestic textile products; increasing the price competitiveness of Africa's textile fabrics; ensuring a stable supply of quality raw cotton; and setting up specific programmes for the manufacturing of textile equipments. On the second it would constitute the need to provide locally 70-80 per cent of the total consumption and to develop capabilities for the manufacture of the major ingredients drawing on Africa's vast potential in traditional medicine. This would require roughly 130,000 workers 15 per cent of whom would need higher education in chemistry, pharmacy, biology, engineering, accounting and management.

32. The role of African institutions of higher learning will be more demanding in meeting these challenges. To get at the heart of the problem means the establishment of a viable and dynamic economy not by words but through the interaction of highly trained production managers, policy makers, policy formulators, industrial researchers and analysts, practicing scientists, technicians, trade negotiators, development legislators, financial brookers, analysists and managers, development economist, etc. working together as a team, these professionals will be oblidged to deal with issues ranging from the formulation of policies and products to the provision of marketing information. Among the issues would be the need to (i) study and update existing agreements, commercial and industrial policies, credit regulations, organizational structures and lending practices of commercial and industrial development banks; and government fiscal and monetary measures and administration; (ii) carry out techno-economic studies so as to select suitable production technology and to find better ways and systems for forging external and internal technical co-operation; and (iii) establish and support faculties and centres of excellence to deal with the problems of technology with focus on applied industrial research with an aim to developing indigenous machines, equipments and manufacturing processes and to adopt foreign technology to local conditions.

33. One can easily see three aspects of the role to be played by African institutions of higher learning. First, a large number of the knowledge and skills required to undertake these studies, and establish and man the faculties will have to be produced by these institutions. Secondly, a mechanism will have to be in operation through which students, teaching staff, fellows, and visiting professors will apply themselves in finding technical and practical solutions and suggestions for meeting those needs. Thirdly, programmes and activities will have to be instituted and promoted to practicalize the interaction between the institution, the Government and the industrial community.

34. The extent to which Africa would meet the above social and productive development management challenges would depend to a large degree on the extent to which energy is generated and distributed, the various transport modes and infrastructure are developed, and the volume and level of intra-Africa trade and economic integration. Since it is assumed that by the year 1990, these development support factors would have taken on solid foundations, the challenges of the time would focus on their expansion which would correspondingly call for improved management and technical skills. Consequently, faculties or schools of management and technical institutions will have to take this factor into account when designing policies and strategies.

35. In view of the above circumstances, continuous exploitation and development of Africa's hydroelectric potential, coal deposit and natural gas would

be required in the decades ahead with resulting surpluses exported for foreign exchange to support development. Exploration research through consultancy services from the institutions of higher learning should be encouraged by both the institutions and national governments in the spirit of partnership. Secondly, with the region's air freight estimated to reach 46 billion by the year 2008, and air passenger traffic to reach 300 billion passengers km., with seaborne trade close to 1,500 million tons, policy makers and policy implimentors will have to gear their energy towards ensuring practical co-operation in and co-ordination of activities between African States in the fields of commercial airlines, railways development, maritime and port development and manpower training. Finally, the challenges emerging from the need for increased intra-African trade and economic integration would go beyond tariff negotiations and harmonization, and the preparation and ratification of treaties and protocols into keeping trade lines open, ensuring adequate supply of goods and payment schemes, and keeping economic grouping together. Marketing and product feasibility studies will accordingly be required, and acceptable formula found for the distribution of gains and losses derived from the various economic groupings and for the payment for goods and services traded across national boundaries. The African institutions of higher learning for tomorrow would have to incorporate such exercises within the general framework of students and staff research, university seminars and professor's inaugural lectures.

36. A present day development need which could intensify to address the above development challenges of the future is the management and interplay of resources. Water, land, minerals, ore, animal and human resources will all have to be effectively managed so as to create value resources such as money, tools and implements, machines, houses, roads, communication networks, energy, manpower, etc. to begin and sustain the development path. Prerequisite to this management function is the need for a comprehensive system with staffing and institutional capabilities to systematically study and control the flow, type and size of any given resource as well as to ensure that a given resource base is adequately developed diversified and utilized. The crux of the matter again rest with the institutions of higher learning. Nearly all of the high-level diversified skills and knowledge required to study, control, develop, diversify, utilize inter-link and transform crude resources are produced by these institutions. As such appropriate policies and strategies will have to be initiated and deployed to guide the development and operation of the resource management framework.

IV: Towards a New Praxis

37. So far this paper has raised a few basic issues that need to be addressed in an attempt at rethinking higher education development in Africa. These may not be completely new and infact most of them are at the margin of established thinking and are therefore being reinforced to lend support to the constant

call for meaningful policies and strategies to meet the development challenges of Africa in the years beyond 1990. Two major conclusions emerge which may offer a guide to further thinking and the taking of immediate action at national and regional levels if African institutions of higher learning are to play a useful role:

(i) The challenges identified are too real and fundamental for Africa's well-being beyond 1990 and hence, they must be resolved by pragmatic approaches set within a more conceptualized development framework. Such a framework need not be constant and rigid as it would depend on factors such as the nature and results of the desired socio-economic transformation process over the next decade, and the perceptions of Africans in the years ahead. Needless to say that this would call for a great deal of conceptual thinking within the context of realities - a task which is not intellectually easy. Nevertheless, research at a broader level would be necessary to understand micro-macro linkages of these challenges within the process and to ensure their interconnections.

(ii) The ultimate focus of the arguments raised is essentially the achievement of the type of development which embraces the need to transform rural Africa; achieve social economic and political maturity; and ensure Africa greater involvement in the international division of labour and commodity network. People consciousness towards development will have to be accordingly raised and maximum efforts made to restore and use their creative energies and African resources including knowledge and skills to bring about the required structural changes. Within this context, it is becoming obvious that Africa cannot solve her medium and long-term development problems by means of the prescriptions currently in use such as the dependence on aid, foreign loans, imported commodities, foreign high-level manpower; and the disintegration of programmes for the development of human resources, natural resources, technology and other value resources.

38. Several questions need to be raised and answered by this conference in the light of the above conclusions. For example, what should and could be done by African institutions of higher learning as their contribution in assisting Africa to face these challenges? Which, if any, type of dychotomy would result from the need to resolve the challenges posed if higher education policies and strategies were to be restructured and re-directed given the traditional conflict between academic knowledge and practical knowledge? How willing are the Heads of African institutions of higher learning to take off their gowns and caps and consolidate efforts, activities, and if possible, institutions so as to maximize the collective contribution towards Africa self-reliant and self-sustained development? How soon or rather how long can Africa wait to get from these institutions the types of skills, knowledge and attitudes that are

development-oriented, innovative and practically useful within the African context? Questions like these could go on and on, but what is more important now is the need for joint reflection and urgent action on the part of governments and institution heads particularly at a time when Africa has vowed to recover from the present economic mess and to build a lasting development foundation over the next five years. In order to stimulate the thinking process and to focus discussion on the above and other pertainent questions, the following observations and suggestions need to be considered.

(i) Focusing policies and strategies

39. There is general agreement that the three major functions of higher education institutions are teaching, researching and the dissemination of research results and knowledge. Explicitly put, these institutions are expected to produce the high-level technicians, professionals, managers, leaders, lawmakers, etc. that are needed to direct the nations' development effort. They are also responsible to produce the high calibre of teachers, scholars, researchers, school managers and administrators needed to sustain the production of the first category of high-level manpower, and for setting educational and ethical standards, maintaining quality and adjusting the education system to changing circumstances and needs. Finally, they are expected to provide the source of "analytical perspective" on society problems and are looked upon to generate required knowledge and innovative ideas in response to a constantly dynamic society. What is encouraging to note are that first, there is no disagreement among all parties concerned that each of these functions should be adequately provided for and sustained to have their optimum impact. Secondly, there is unanimous agreement that their ultimate goals is the enhancement of social, economic and political development of the nation.

40. Despite these acknowledgements, there is more to be desired in the set of policies and strategies adopted by most of these institutions in the discharge of the three functions. In the first place, most of the policies and strategies are allergy to evaluation and changes in the name of academic tradition. Secondly, the scope of their focus is usually limited concentrating only on intake and output requirements and organizational structure. Thirdly, they often neglect the development realities of Africa as they are fashioned in line with systems and structures that were inherited after independence. Therefore, if the dreams and aspirations of Africa are to become true, it is imperative that the policies and strategies be revisited. A possible starting point would be the establishment of policy and strategy committees with membership drawn from governments and higher education institutions at national and sub-regional levels. National Committees would be expected to crystalize various options taking into account the nation's manpower needs consolidate them into a national report to be considered by sub-regional committees preferably to be composed of national committees chairperson, rapporteurs and one government representative. The work of the sub-regional committees, with concrete recommendation would form a substantive agenda item for the next conference of Vice-Chancellors, Rectors and Presidents of Institutions of Higher Learning.

41. Exercises of this type should not loose sight of a few important factors. First of all policies will have to be formed outside the institutions, by governments, in relation to the way in which higher education in Africa is to be organized, managed and financed. Questions of autonomy self-financing, interrelationship, accountability, the entire education structure etc. will have to enter the formula. Secondly, policies internal to the institutions themselves will have to be formulated in view of national development goals and strategies. Focus of such policies should be on student-staff relation; institutional planning with regards to physical facilities, self-development, inter-institutional co-operation and integration and seminars; and productivity and achievement vis-a-vis new discoveries and invention, quality of output, institution participation in community development and staff promotion. Thirdly, and more importantly, policies will have to be guided by and formulated within the context of an effecient human resources planning, development and utilization programme. The importance of focussing policies in this regard is to ensure that the type, quantity, and orientation of the skills and knowledge produced are those required for Africa's development. The point here is that though elements and emphasis of each focus may differ from country to country or from region to region, there are some common issues which need to be addressed adequately by the various internal and external policies for higher education in Africa beyond the year 1990. These well known 4 issues, which have and will continue to characterize the development of education in Africa particularly in the absence of an effective human resources management planning process, include inappropriate output mix, a deteriorating quality of outputs, high unit resource cost per graduate and per student-year, and inequitable and insufficient financial resources.

42. On the issue of strategy, new and radical approachers need to be found for integrating teaching research and extension activities. Few thoughts come to mind. For instance how plausible is a strategy which allows an undergraduate student to do two years of class work in the first instance, spend about six months to one year doing related practical work and then returning to complete the required course? What benefits would accrue to society if say graduate thesis were made to solve a particular national or regional problem rather than the traditional "new frontier of knowledge" approach which plunders on theoritical conceptualization often under non-realistic assumptions while national problems become more and more complex for the government and people. Or would it be interesting for students and faculties to jointly undertake consultancy work, participate in development oriented seminars and workshops and interact more closely in the identification of research problems? Indeed, what strategy could emerge to bring about this integration?

43. Mandatory periodic secondment of teaching staff to government and the private sector could prove to be a useful strategy supplemented by a well

managed inter-institutional staff exchange programme beyond the dimension of the present external examination system practiced by most African Universities. Focus of such a strategy should be on strengthening the research function. Current research practices in Africa have generally failed to deal adequately with the social and political implications of people's participation, needs and environment thus limiting their impact on actual local development contradictions and conflicts. Given the development challenges in the 1990's: The research approach suggested by the need for a new strategy is one which would blend scientific research, policy-oriented research, action-oriented research, and problem-solving research. In other words, the purpose of research should be more than an academic exercise. It should instead become a means to investigate and find solutions to concrete and pressing problems and conflicts as they exist in the development process of the continent.

(ii) Formulating and implementing policies and strategies

44. It is one thing to have a clear focus on what direction policies and strategies should take, and quite another when it comes to their actual formulation and implementation. The importance of this second aspect cannot be over-emphasized since well formulated strategies are needed to guide the use of scarce resources and to minimize the duplication of efforts. By implication, the exercise involves detailed analysis of various factors internal and external to the institutions and the potential resource flows.
ensuring factors internal and external to the institutions and the potential
It also involves ensuring that the formulated policies and strategies are acceptable and practicable.

45. What a great challenge! A major question is, can the suggested national and sub-regional policy and strategy committees deal with this challenge? In part, the answer is yes; and in part it is no. A bigger framework will have to evolve not only for the formulation stage; but also for propelling the implementation of these policies and strategies. A possible approach which comes to mind, and one that could have far reaching consequences, is for Africa to embark upon a 10-year higher education development programme. For the purpose of discussion and familiarity, the programme could be known as "Higher Education Development Decade for Africa, 1988-1998".

46. Assuming that this suggestion is desirable, a Development Decade Committee will have to be established to develop, co-ordinate and monitor the project. Secondly, a project document, outlining the schedules, inputs, and outputs of the decade programme will have to be developed to be reviewed and approved by the Development Decade Committee. Activities of the National and Sub-regional Committees should be featured in the project document. Other possible

national and sub-regional committees whose activities should be also featured are institution planning committees, textbook and curriculum development committees and institution building committees. The most single output of the decade programme could be a firm foundation upon which African higher education will be built during the preceeding fifty or so years. For example, elements of the foundation could include (a) a set of policies and strategies that would make higher education more responsive to the development needs and challenges of Africa; (b) a successive rolling development plan of action towards consolidation, equitable distribution and division of function in the activities of African institutions of higher learning; and (c) the development of regional capabilities in the writing and publishing of African textbooks and case study materials.

47. What a greater challenge! Can the Third Conference of Vice-Chancellors, Rectors and Presidents of African Institutions of Higher Learning Cope with this challenge? In our view the answer is yes. First, the Development Decade Committee can be formed now. Secondly, the project document can be commissioned now. Thirdly, National Committees chairpersons can be designated now. Fourthly a schedule of activities can be formulated now. Finally, but more fundamental, the Conference can resolve today to initiate and embark upon a long-term high education development programme aimed at assisting African governments transform the social and economic conditions of Africa.

(iii) Strengthening graduate education, research and extension activities: a possible approach

48. The need to establish an African "think tank" institution primarily to undertake research on development strategies and international economic relations, and to provide the necessary guidelines for a more systematic and forward looking approach to the formulation and review of policies and strategies relating to major development issues confronting Africa, was felt a long time ago. Noting this need, and conscious of the fact that Africa's ability to effectively study, analyse and evaluate strategic issues is a prerequisite to policy making and development, the ECA Conference of Ministers, through resolution 434 (XVII), called for the establishments of an autonomous African Institute for Future Studies[1/] to provide a forum where African high-ranking policy makers, other national leaders, scholars and researchers could study in depth, identify, examine critically and reflect on the economic, political and other matters and problems of international relations facing Africa and those affecting Africa's present and future course of development with a view to providing member States with rational and appropriate guidelines for policy

1/ "ECA Conference of Ministers Report"; Resolution 434(XVII), April, 1982.

formulation and action[1/]

49. While developments of the 1980's do suggest the urgency of establishing such institutional capabilities, those anticipated beyond 1990 demand that the scope and framework of such an institution be broadened to aggregate the three major functions of higher education institution, particularly in the post graduate programmes and to make the greatest possible impact on Africa's future development. For example, how desirable and feasible would it be to develop a few selected African graduate schools into a network within one framework and one philosophy to serve as a pan African Graduate Institution with overall capacity to accommodate say at least 30,000 graduate fellows in one academic year and to be simultaneously engaged in teaching, researching and extension work? Could such a structure make the necessary contribution towards Africa's long-term development? Could it serve as a "focus of knowledge" and a "think tank" for fostering research and development, intra-African co-operation and the development of development-oriented managers, leaders, thinkers, administrators etc.? What could be the rationale for embarking upon such project, and what specific benefits and objectives would the institute seek to achieve?

50. Finding suitable answers to the above questions could constitute part of the agenda for the proposed national and sub-regional committees. Preliminary answers to these questions could also be derived today in this forum. In any case, there is one point that seems clear and which needs to be taken into account when the above questions are being considered: Africa will have to internalize adequate research and technological development efforts if she is to move up the development ladder in the years beyond 1990. This effort will require, among other things, the availability and utility of appropriate high-level African skills and knowledge, as well as the assurance of sound policies and commitment towards effective development. Sadly, existing African institutions of higher learning and graduate programmes in particular are so bulkanized, often ill-equipped and inappropriate that they cannot adequately meet this challenge. Despite this dilemma, Africa is faced and will continue to be faced with the challenges of development. Among the radical measures that will have to be taken are those geared towards the development and utilization of a core of high-level African manpower in various fields at minimum oportunity cost; and the re-orientation of the structure, content, strategy and philosophies of high level education in Africa. The desire to see Africa make this effort forcefully and collectively could form the general rationale for the development of a Pan African Graduate institutional network with capacity to:

(a) Identify and define major development issues and problems facing the African region in its efforts to promote a self-reliant and self-sustaining development;

1/ PAM/ACAPPAS/1/82; "Proposed African Institute for Public Policy Analysis and Future Studies"; UNECA, Addis Ababa, January, 1982.

(b) Undertake multidisciplinary studies, analysis and evaluation of development issues with a view to providing guidelines that will promote a more scientific and systematic approach to the formulation of development policies and strategies;

(c) Provide for African policy-makers at the highest level, including national leaders, chief executives from the public and private sectors and researchers, scholars, graduate students persons of outstanding talents and experience;

- a forum for sharing ideas and experiences and fostering mutual understanding;

- an opportunity for reflection and examination of studies of major issues of development and international co-operation and considering alternative approaches for African initiatives or action.

(d) Undertake advanced public policy analysis and periodic consultations and assess alternative policies and their consequences for the economic and social development of Africa;

(e) Provide a reference base to African governments and African intergovernmental organizations in their efforts to elaborate and apply policy guidelines on major development issues in relation to their own circumstances and in pursuance of their long-term development goals;

(f) Foster co-operation among African States and institutions in pursuing harmonized development policies and strategies within the context of multinational, sub-regional and regional technical and economic co-operation and in evolving appropriate policies and strategies for resolving development problems and issues common to them;

(g) Producing highly trained and qualified manpower in strategic fields of study by:

- developing, providing and monitoring opportunities for scholarship, advanced studies, thinking, research and the exchange of views, knowledge and information with respect to major development issues and problems facing Africa;

- designing, administering, preparing students for and awarding of masters and doctoral degrees within the context of African realities and development needs and challenges;

- enhancing the rate of knowledge and its effects on the content and methods of teaching, particularly on self-teaching technologies, learning how to think and influencing students future expectations, behavior and choices.

51. Certainly, there are a number of potential problem areas which, if not carefully considered, could hinder the implementation of such an institution. These include the problems of resource mobilization, site selection, consolidation of activities and policies and credibility. Nevertheless, when one thinks of the development challenges which lie ahead and the tremendous drain on Africa's scarce foreign exchange and brain power resulting from training graduate students outside of Africa, the taking of bold steps such as the concieved above for overshadowed the magnitude of these problem areas. As indicated throughout this paper, no matter how the wind blows, African institutions of higher learning will have to play a more miningful role in the structural transformation of Africa beyond the year 1990.